CLAIMS

1. An elevator apparatus comprising:

a car having a wall portion, for being raised and lowered within a hoistway;

a car guide rail installed within the hoistway, for guiding the car when the car is raised and lowered; and

a car guide shoe mounted on the car, for engaging with the car guide rail,

wherein the wall portion is provided with a recess, and the car guide shoe is at least partially disposed in the recess on a vertical projection plane.

2. The elevator apparatus according to Claim 1, wherein:

the wall portion has a front face provided with a car entrance, a rear face facing the front face, a first side face, and a second side face facing the first side face;

the recess includes a first recess provided in a corner portion between the front face and the first side face, and a second recess provided in a corner portion between the rear face and the second side face; and

the car guide shoe includes a first car guide shoe provided in the first recess, and a second car guide shoe provided in the second recess.

3. The elevator apparatus according to Claim 2, wherein:

the first car guide shoe is disposed substantially inside a region surrounded by an extended straight line of the front face, an extended straight line of the first side face, and a bottom face of the first recess on the vertical projection plane; and

the second car guide shoe is disposed substantially inside a region surrounded by an extended straight line of the rear face, an extended straight line of the second side face, and a bottom face of the second recess on the vertical projection plane.

4. The elevator apparatus according to Claim 2, wherein:

the recess further includes a third recess provided in a corner portion between the rear face and the first side face, and a fourth recess provided in a corner portion between the front face and the second side face;

the car is provided with a first rope connecting portion and a second rope connecting portion to which a main rope for suspending the car is connected respectively; and

the first rope connecting portion and the second rope connecting portion are provided in the third recess and the fourth recess respectively on the vertical projection plane.

5. The elevator apparatus according to Claim 2, further

comprising a counterweight that is raised and lowered within the hoistway, wherein:

the recess further includes at least one of a third recess provided in a corner portion between the rear face and the first side face, and a fourth recess provided in a corner portion between the front face and the second side face; and

the counterweight is disposed in at least one of the third recess and the fourth recess on the vertical projection plane.

6. The elevator apparatus according to Claim 2, wherein:

the recess further includes a third recess provided in a corner portion between the rear face and the first side face, and a fourth recess provided in a corner portion between the front face and the second side face;

the car is provided on its lower portion with a first car suspending pulley and a second car suspending pulley;

main ropes for suspending the car are wound around the first car suspending pulley and the second car suspending pulley; and

the first car suspending pulley and the second car suspending pulley are disposed to be partially located in the third recess and the fourth recess respectively on the vertical projection plane.

7. The elevator apparatus according to Claim 1, wherein the recess is continuously provided along a direction in which the car

is raised and lowered.

8. The elevator apparatus according to Claim 1, wherein, in its cross-section, 80% or more of each of the car guide shoes is accommodated in the recess.

9. The elevator apparatus according to Claim 1, wherein:

the wall portion has a front face provided with a car entrance, a rear face facing the front face, a first side face, and a second side face facing the first side face; and

the recess includes a first recess provided in the first side face, and a second recess provided in the second side face.

10. The elevator apparatus according to Claim 9, wherein:

the car guide rail includes a first car guide rail opposed to the first recess, and a second car guide rail opposed to the second recess;

the car is provided on the first side face side with a first rope connecting portion to which a first main rope for suspending the car is connected;

the car is provided on the second side face side with a second rope connecting portion to which a second main rope for suspending the car is connected; and

the first car guide rail and the second car guide rail have

a pitch between car guide rail rear faces which is set equal to or smaller than a car suspension pitch defined by the first main rope and the second main rope.

11. The elevator apparatus according to Claim 1, wherein the car guide rail is at least partially disposed in the recess on the vertical projection plane.

12. The elevator apparatus according to Claim 1, wherein the recess is a chamfered portion provided in a corner portion of the car.

13. The elevator apparatus according to Claim 1, wherein:

the car guide rail includes a first car guide rail and a second car guide rail; and

the first car guide rail and the second car guide rail have centerlines that are parallel to each other on the vertical projection plane.

14. The elevator apparatus according to Claim 1, wherein:

the car guide rail includes a first car guide rail and a second car guide rail; and

the first car guide rail and the second car guide rail have centerlines that are located on an identical straight line.

15. The elevator apparatus according to Claim 1, wherein:

the car is provided with a rope connecting portion to which a main rope for suspending the car is connected; and

the rope connecting portion is disposed in the recess common to the car guide shoe on the vertical projection plane.

16. The elevator apparatus according to Claim 1, further comprising:

a drive device provided in an upper portion of the hoistway and having a drive sheave around which a main rope for suspending the car is wound, for raising and lowering the car via the main rope, wherein

the drive device is disposed so that a rotating shaft of the drive sheave extends vertically or substantially vertically.

17. The elevator apparatus according to Claim 1, wherein:

the car is provided with a car door device for opening and closing a car entrance; and

the car door device has a plurality of car doors that overlap one another in a door-open state.

18. An elevator apparatus comprising:

a drive device having a drive sheave;

a first main rope and a second main rope wound around the drive sheave;

a car having a first rope connecting portion to which the first main rope is connected and a second rope connecting portion to which the second main rope is connected, for being raised and lowered within a hoistway through a driving force of the drive device; and

a first car guide rail and a second car guide rail installed within the hoistway, for guiding the car when the car is raised and lowered,

wherein the first car guide rail and the second car guide rail have a pitch between car guide rail rear faces which is set equal to or smaller than a car suspension pitch defined by the first main rope and the second main rope, in a width direction of the car.

19. An elevator apparatus comprising:

a car for being raised and lowered within a hoistway;

a pair of car guide rails installed within the hoistway, for guiding the car when the car is raised and lowered; and

a plurality of car guide shoes installed in the car, for engaging with the car guide rails

wherein:

the car has chamfered portions facing each other, the chamfered portions being formed at diagonally located corner portions of the car;

the car guide rails are installed to face the chamfered portions respectively; and

the car guide shoes are disposed in the chamfered portions respectively.

20. An elevator apparatus comprising:

a car having a wall portion, for being raised and lowered within a hoistway;

a car guide rail installed within the hoistway, for guiding the car when the car is raised and lowered; and

an safety device installed in the car, for engaging with the car guide rail to stop the car as an emergency measure,

wherein the wall portion is provided with a recess, and the safety device is at least partially disposed in the recess on a vertical projection plane.